• Aspirin may help some patients whose amaurosis fugax is not due to surgically amenable lesions, by lessening platelet aggregation.

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Time Released Medication for Glaucoma

CONTROL OF GLAUCOMA using topical medication has historically been achieved by the use of medications instilled into the conjunctival sac at varying rates of frequency—depending upon the drug used and the requirements of the patient. During the night treatment is usually reduced and, therefore, control during these hours is less certain. Various drugs and vehicles have been used to reduce to a minimum the number of instillations required in 24 hours. Physostigmine, demecarium bromide, echothiophate, pilocarpine and other antiglaucoma medications have been combined with ointment bases or in vehicles containing polyvinyl alcohol, methylcellulose or Absorbobase.® Contact is claimed to be prolonged and therefore the agents are effective for a longer period of time. It is likely that toxic levels of the drug occur with each instillation while therapeutic levels are achieved only part of the time with pulse therapy.

As a natural evolution, new systems of delivery have been investigated. Among these are administration by saturated hydrophilic contact lenses; through a copolymeric membrane permitting passage of drugs at a predetermined rate; through devices that hydrolyzed, releasing medication and degrading to self-destruction, or by the use of capsules with two compartments—one absorbing water by osmosis then, by expansion into the second chamber, forcing medication out through an opening calculated to deliver a therapeutic dose.

To date the only system available is the Pilocarpine Ocusert.® This wafer-shaped device consists of a core of pilocarpine and alginic acid surrounded by a copolymeric membrane. In a watery atmosphere (tears) the drug passes out of the core at a preset rate. Alterations in the nature of the copolymeric membrane can be made to control the release rate. Two Ocuserts® are now available: Pilo-20 and Pilo-40. The Pilo-20 Ocusert® releases pilocarpine at 20 micrograms (μg) per hour and the Pilo-40 at 40 μg per hour. Therefore, the amounts of drugs required with this delivery system are some 10 to 25 times less than with pilocarpine drops. There is also the theoretical advantage that the drug is being delivered day and night.

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Studies of the Optic Nerve Head in Glaucoma

RECENT ADVANCES in clinical evaluation of the optic disc place emphasis on the three dimensional morphology of the optic cup and the differentiation of the amount of pallor from the extent of cupping.

Studies on the qualitative appearance of the cup in the early stages of glaucoma have described the processes of central deep atrophy and upward-downward extension. The former occurs in discs with congenitally small cups which, before the onset of atrophy, did not extend to the lamina and is manifested by a "moth-eaten" appearance of the prelaminar nerve head tissue with apparent deepening of the cup in that central area. Upward or downward extension can be detected by the presence of vertical ovality of the cup which is measured by a greater vertical than horizontal cup to disc ratio. Thorough evaluation of the nerve head is increasingly dependent on the use of the slit lamp with which a stereo view can be obtained.

Using this instrument it is also possible to distinguish between the size of the optic cup and the degree of pallor. Unfortunately, use of the monocular direct ophthalmoscope to observe the disc may easily disguise the difference between these two parameters since it does not provide a good three dimensional view. Because the area of pallor